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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,579	03/11/2004	Hidehiko Nakata	FUJH 21.010 (100794-00570)	6476
26304	7590	09/23/2005	EXAMINER	
KATTEN MUCHIN ROSENMAN LLP 575 MADISON AVENUE NEW YORK, NY 10022-2585			PENG, CHARLIE YU	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 09/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/799,579	Applicant(s) NAKATA ET AL.	
	Examiner Charlie Peng	Art Unit 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-9 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2 and 3 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/11/04

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other Brian Healy

DETAILED ACTION

Drawings

Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP02002031768A to Katayama et al. (application number JP2000354741) in view of U.S. Patent 6,456,760 to Kurokawa et al. Katayama teaches an OADM having, on a substrate 2, a channel waveguide 111 for wavelength separation/composition (multiplexing/demultiplexing), a first slab waveguide 121 and a second slab waveguides 141 connected by an array waveguides 131₁-131_M, and a movable mirror array section

Art Unit: 2883

60 with a plurality of movable mirrors 61 disposed at an end of the second waveguide 141 opposite to the array waveguides, wherein the channel waveguide 111 receives an inputted signal from an optical circulator 181 as well as transmits an outputted signal to the optical circulator 181. (See at least Drawings 3, 4, 7 and description) Katayama does not teach a focal point of an output optical beam at the position of the movable mirrors 61. Kurokawa teaches an array waveguide 2112 connecting two slab waveguides 2111, 2113, wherein light is outputted, via a lens 2114, to a movable mirror array 2115 having a plurality of movable mirrors 2119 disposed to be in line with the focusing plane of the lens 2114. (See at least Figs. 70-72 and description) It would have been obvious to one of ordinary skill in the art to combine these two substantially similar inventions by placing a lens taught by Kurokawa before the movable mirror array section 60 taught by Katayama. The motivation would be to convert the cylindrical focusing plane of an array waveguide grating (comprising the slab waveguides and the array waveguides) into a flat plane at the surface of the mirrors.

Allowable Subject Matter

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Katayama and Kurokawa teach the array waveguide grating and the movable mirror array except for the movable mirrors having dented reflecting faces and an angle of reflection being set by moving the dented reflection faces. While dented (commonly "V-grooved") reflection faces are known in the art, they

Art Unit: 2883

are used for switch the paths of light signals, i.e., light inputting path into the reflection face is different from light outputting path out of the reflection face. The movable mirrors taught by relevant prior art only teach a straight reflection face, i.e., light inputting path is same as light outputting path by the straight reflection face. It would not be possible to apply such a dented reflection face to prior art without destroying its original structure and functionality. It is the examiner's opinion that the prior art of record, taken alone or in combination, fails to disclose or render obvious the dented reflection face in combination with the rest of the limitations of the base claim.

Claim 3 is also objected to but allowable as it depends upon an allowable claim.

Claim 4 is allowed. Katayama and Kurokawa teach the array waveguide grating and the movable mirror array except for the movable mirrors having dented reflecting faces and an angle of reflection being set by moving the dented reflection faces. While dented (commonly "V-grooved") reflection face are known in the art, they are used for switch the paths of light signals, i.e., light inputting path into the reflection face is different from light outputting path out of the reflection face. The movable mirrors taught by relevant prior art used with array waveguide grating only teach a flat reflection face, i.e., light inputting path is same as light outputting path by the straight reflection face. It would not be possible to apply such a dented reflection face to prior art without destroying its original structure and functionality. It is the examiner's opinion that the prior art of record, taken alone or in combination, fails to disclose or render obvious the dented reflection face in combination with the rest of the limitations of the base claim.

Claim 5 and 9 are allowed by virtue of being dependent upon claim 4.

Art Unit: 2883

Claim 6 is allowed. Prior art by Katayama and Kurokawa both teach all the limitations by claim 6 except for a movable girder having the same under-clad, core, over-clad layer structure as the array waveguide diffraction grating. Katayama and Kurokawa both teach the movable mirror array to be a separately constructed part from the array waveguide grating and to have a different structure than the array waveguide grating. Relevant prior art also do not teach a movable mirror being attached to the end of said movable girder in use with an array waveguide grating. As such, no combination is possible without destroying the structure and functionality of the prior art. It is the examiner's opinion that the prior art of record, taken alone or in combination, fails to disclose or render obvious a movable girder having the same under-clad, core, over-clad layers structure as the array waveguide diffraction grating in combination with the rest of the limitations of the base claim.

Claim 7 and 8 are allowed by virtue of being dependent upon claim 6.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see form PTO-892 for additional references cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlie Peng whose telephone number is (571) 272-2177. The examiner can normally be reached on 9 am - 6 pm M-F.

Art Unit: 2883

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charlie Peng
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September 1, 2005


Brian Healy
Primary Examiner